

**AMENDMENTS TO THE SPECIFICATION**

Please amend the specification as follows.

Please amend the following paragraph beginning on page 23, line 18 of the specification as indicated.

Fig. 13 shows the percent change in outlet triiodide concentration versus the ratio of radiation penetration depth to velocity boundary layer thickness. If the reaction layer thickness is greater than the velocity boundary layer or  $\lambda/\delta \gg 1$ , the product  $I_3^-$  is formed throughout the gap and the advantages of the circulating vortices are substantially reduced. It should be noted that the left data point in Fig. 13 corresponds to a reaction layer that is 15% of the velocity boundary thickness where the latter is 10% of the gap width  $d$ . In contrast, the right data point in Fig. 13 represents a radiation depth that is 150% of the gap width  $d$ . At the optimum operating conditions  $\lambda/\delta = 1$  one obtains a maximum 150% increase in the product concentration. Under the latter constraint if

$$\lambda/\delta = Ta^{1/2}/(d\epsilon C_i(I)) \quad (29)$$

setting  $\lambda/\delta = 1$ , one obtains an optimum frequency  $[[f_{op}]] f_{op}$  Hz of rotation equal to

$$f_{op} = (\sqrt{2}\pi)(dR)^{1/2} \epsilon^2 C_i^2(I)$$